

WHAT IS CLAIMED IS:

- 1 1. A route-optimization method comprising the steps of:
2 sending a binding request;
3 receiving a binding update in response to the binding request, wherein the
4 binding update includes a care-of address of a mobile node;
5 creating a binding to the care-of address responsive to receipt of the binding
6 update;
7 sending a path message responsive to receipt of the binding update, wherein
8 the path message explicitly binds a data path of a packet flow to the mobile node; and
9 receiving a reservation request message responsive to the path message.
- 1 2. The method of claim 1 wherein a correspondent host performs the steps of
2 sending the binding request, receiving the binding update, creating the binding, sending the
3 path message, and receiving the reservation request message.
- 1 3. The method of claim 1 operating according to mobile IP version 4.

1 4. The method of claim 1 operating according to mobile IP version 6.

1 5. The method of claim 3 operating according to RSVP.

1 6. The method of claim 4 operating according to RSVP.

1 7. The method of claim 5 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 8. The method of claim 6 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 9. A correspondent host adapted to:
2 send a binding request;
3 receive a binding update in response to the binding request, wherein the
4 binding update includes a care-of address of a mobile node;
5 create a binding to the care-of address responsive to receipt of the binding
6 update;
7 send a path message responsive to receipt of the binding update, wherein
8 the path message explicitly binds a data path of a packet flow to the mobile node; and
9 receive a reservation request message responsive to the path message.

1 10. The host of claim 9 adapted to operate according to mobile IP version 4.

1 11. The host of claim 9 adapted to operate according to mobile IP version 6.

1 12. The host of claim 10 adapted to operate according to RSVP.

1 13. The host of claim 11 adapted to operate according to RSVP.

1 14. The host of claim 12 wherein the path message comprises an RSVP PATH
2 message and the reservation request message comprises an RSVP RESV message.

1 15. The host of claim 13 wherein the path message comprises an RSVP PATH
2 message and the reservation request message comprises an RSVP RESV message.

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1 16. A route-optimization method comprising the steps of:
2 receiving a binding request; and
3 sending a binding update in response to the binding request, wherein the
4 binding update includes a care-of address of a mobile node, a binding to the care-of
5 address is created responsive to receipt of the binding update, a path message that explicitly
6 binds a data path of a packet flow to the mobile node is sent responsive to receipt of the
7 binding update, and a reservation request message is sent responsive to the path message.

1 17. The method of claim 16 wherein the steps of receiving and sending are
2 performed by a home agent.

1 18. The method of claim 16 wherein the steps of receiving and sending
2 are performed by the mobile node.

1 19. The method of claim 16 operating according to mobile IP version 4.

1 20. The method of claim 16 operating according to mobile IP version 6.

1 21. The method of claim 19 operating according to RSVP.

1 22. The method of claim 20 operating according to RSVP.

1 23. The method of claim 21 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 24. The method of claim 22 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 25. A route-optimization method comprising the steps of:
2 receiving a binding request;
3 sending a binding update in response to the binding request, wherein the
4 binding update includes a care-of address of a mobile node;
5 receiving a path message sent in response to receipt of the binding update,
6 wherein the path message explicitly binds a data path of a packet flow to the mobile node;
7 and
8 sending a reservation request message responsive to the path message.

1 26. The method of claim 25 wherein the steps of receiving the binding request,
2 sending the binding update, receiving the path message, and sending the reservation request
3 message are performed by the mobile node.

1 27. The method of claim 25 wherein the steps of receiving the binding request
2 and sending the binding update are performed by a home agent and the steps of receiving
3 the path message and sending the reservation request message are performed by the mobile
4 node.

1 28. The method of claim 25 operating according to mobile IP version 4.

1 29. The method of claim 25 operating according to mobile IP version 6.

1 30. The method of claim 28 operating according to RSVP.

1 31. The method of claim 29 operating according to RSVP.

1 32. The method of claim 30 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 33. The method of claim 31 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.

1 34. A home agent adapted to:
2 receive a binding request; and
3 send a binding update in response to the binding request, wherein the
4 binding update includes a care-of address of a mobile node, a binding to the care-of address
5 is created responsive to receipt of the binding update, a path message that explicitly binds
6 a data path of a packet flow to the mobile node is sent responsive to receipt of the binding
7 update, and a reservation request message is sent responsive to the path message.

1 35. The agent of claim 34 adapted to operate according to mobile IP version 4.

1 36. The agent of claim 35 adapted to operate according to RSVP.

1 37. The agent of claim 36 wherein the path message comprises an RSVP PATH
2 message and the reservation request message comprises an RSVP RESV message.

1 38. A route-optimization system comprising:
2 a home agent receiving a binding request and sending a binding update
3 responsive to the binding request, wherein the binding update includes a care-of address
4 of a mobile node; and
5 a correspondent host receiving the binding update, sending a path message,
6 the path message explicitly binding a data path of a packet flow to the mobile node, in
7 response to receipt of the binding update, and receiving a reservation request message
8 responsive to the path message.

1 39. The system of claim 38 adapted to operate according to mobile IP version 4.

1 40. The system of claim 39 adapted to operate according to RSVP.

1 41. The system of claim 40 wherein the path message comprises an RSVP
2 PATH message and the reservation request message comprises an RSVP RESV message.